

WHAT IS CLAIMED IS:

1. A circuit, comprising:

an element having a susceptibility to damage from a potential over 400 millivolts, and conducting with an element conductance over an element operating voltage range under 400 millivolts at element leads; and

a shunt protective device connected to at least one element lead, the shunt protective device conducting with a shunt conductance above 400 millivolts that is greater than the element conductance, and conducting with a shunt conductance over the element operating voltage range that is less than the element conductance.

2. The circuit of Claim 1, further comprising:

an electronic circuit coupled to the element leads, the electronic circuit communicating a signal potential in the element operating voltage range.

3. The circuit of Claim 1 wherein the shunt protective device comprises a passive electrical device.

4. The circuit of Claim 3 wherein the shunt protective device comprises a static induction device.

5. The circuit of Claim 3 wherein the shunt protective device comprises a Schottky diode.

6. The circuit of Claim 3 wherein the shunt protective device comprises a Junction Schottky Barrier diode.

7. The circuit of Claim 3 wherein the shunt protective device comprises a Trench MOS Schottky Barrier diode.
8. The circuit of Claim 1 wherein the element comprises a magnetoresistive transducer.
9. The circuit of Claim 8 wherein the magnetoresistive transducer comprises a spin tunneling junction magnetoresistive transducer.
10. The circuit of Claim 1 wherein the element comprises a preamplifier.
11. The circuit of Claim 1 wherein the element is located on a substrate.
12. The circuit of Claim 11 wherein the shunt protective device is located on the substrate.
13. The transducer of Claim 11 wherein the shunt protective device is located on the flexible circuit.
14. A circuit, comprising:
 - an element having a susceptibility to damage from a potential over 400 millivolts, and conducting with an element conductance over an element operating voltage range under 400 millivolts at element leads; and
 - means for protecting the element coupled to the element leads, the means conducting more than the element above 400 millivolts, and the means conducting less than the element over the element operating voltage range.

15. The circuit of Claim 14 wherein the means comprises a static induction device.
16. The circuit of Claim 14 wherein the means comprises a Schottky diode.
17. The circuit of Claim 14 wherein the means comprises a Junction Schottky Barrier diode.
18. The circuit of Claim 14 wherein the means comprises a Trench MOS Schottky Barrier diode.
19. The circuit of Claim 14 wherein the element comprises a magnetoresistive transducer.
20. A method, comprising:
 - providing an element having a susceptibility to damage from a potential over 400 millivolts; and
 - providing a shunt protective device connected to the element that conducts at 400 millivolts and above.
21. The method of Claim 20, comprising:
 - positioning the element on a slider substrate.
22. The method of Claim 20, comprising:
 - positioning the shunt protective device on a flexible circuit.
23. The method of Claim 20 wherein the shunt protective device comprises a static induction device.

24. The method of Claim 20 wherein the shunt protective device comprises a Schottky diode.

25. The method of Claim 20 wherein the shunt protective device comprises a Junction Schottky Barrier diode.

26. The method of Claim 20 wherein the shunt protective device comprises a Trench MOS Schottky Barrier diode.